

In the claims:

Please amend the claims as follows:

Claim 1. (Currently Amended) An active matrix display device comprising:
an active matrix circuit and a driver circuit formed over a substrate;
said driver circuit including at least a first thin film transistor and a second thin film transistor;
said first thin film transistor comprising:
a first semiconductor layer having first source and drain regions, a pair of lightly-doped regions and a first channel forming region therebetween; and
a first gate electrode adjacent to said first channel forming region with a first gate insulating layer interposed therebetween, and
said second thin film transistor comprising:
a second semiconductor layer having second source and drain regions and a second channel forming region therebetween; and
a second gate electrode adjacent to said second channel forming region with a second gate insulating layer interposed therebetween,
wherein said second channel forming region directly contacts with said second source and drain regions,
wherein a pair of portions containing n-type and p-type impurities are formed adjacent to said second source and drain regions respectively,
~~wherein said pair of portions have the same conductivity type as said second source and drain regions, and~~
wherein an electrode is connected to at least one of said pair of portions.

2. (Currently Amended) An active matrix display device comprising:
an active matrix circuit and a driver circuit formed over a substrate;
said driver circuit including at least a first thin film transistor and a second thin film transistor;
said first thin film transistor comprising:

a first semiconductor layer having first source and drain regions,
a pair of lightly-doped regions and a first channel forming region therebetween; and
a first gate electrode adjacent to said first channel forming region with a first gate
insulating layer interposed therebetween, and
said second thin film transistor comprising:
a second semiconductor layer having second source and drain regions and a second
channel forming region therebetween; and
a second gate electrode adjacent to said second channel forming region with a second
gate insulating layer interposed therebetween,
wherein said second channel forming region directly contacts with said second source
and drain regions containing a p-type impurity,
wherein a pair of portions containing n-type and p-type impurities ~~and having a p-type
conductivity~~ are formed adjacent to said second source and drain regions respectively, and
wherein an electrode is connected to at least one of said pair of portions.

3. (Currently Amended) An active matrix display device comprising:
an active matrix circuit and a driver circuit formed over a substrate;
said driver circuit including at least one thin film transistor, said thin film transistor
comprising:
a semiconductor layer having source and drain regions and a channel forming region
therebetween; and
a gate electrode adjacent to said channel forming region with a gate insulating layer
interposed therebetween,
wherein said channel forming region directly contacts with said source and drain regions,
wherein a pair of portions containing n-type and p-type impurities are formed adjacent to
said source and drain regions respectively,
~~wherein said pair of portions have the same conductivity type as said source and drain
regions,~~ and
wherein an electrode is connected to at least one of said pair of portions.

4. (Currently Amended) An active matrix display device comprising:
an active matrix circuit and a driver circuit formed over a substrate;
said driver circuit including at least one thin film transistor, said thin film transistor comprising:
a semiconductor layer having source and drain regions and a channel forming region therebetween; and
a gate electrode adjacent to said channel forming region with a gate insulating layer interposed therebetween,
wherein said channel forming region directly contacts with said source and drain regions containing a p-type impurity,
wherein a pair of portions containing n-type and p-type impurities ~~and having a p-type conductivity~~ are formed adjacent to said source and drain regions respectively, and
wherein an electrode is connected to at least one of said pair of portions.

5. (Currently Amended) ~~An~~ The active matrix display device according to ~~any~~ one of claims 1 ~~to~~ and 2, wherein said first source and drain regions contain an n-type impurity.

6. (Currently Amended) ~~An~~ The active matrix display device according to ~~any~~ one of claims 1 ~~to~~ and 2, wherein said first channel forming region and said second channel forming region contain an impurity imparting one conductivity.

7. (Currently Amended) ~~An~~ The active matrix display device according to ~~any~~ one of claims 1 ~~to~~ and 2, wherein said first semiconductor layer and said second semiconductor layer contain hydrogen and halogen.

8. (Currently Amended) A semiconductor device having at least one p-channel thin film transistor formed over a substrate, said p-channel thin film transistor comprising:
a semiconductor layer having source and drain regions and a channel forming region therebetween; and

a gate electrode adjacent to said channel forming region with a gate insulating layer interposed therebetween,

wherein said channel forming region directly contacts with said source and drain regions,

wherein a pair of portions containing n-type and p-type impurities are formed adjacent to said source and drain regions respectively,

~~wherein said pair of portions have the same conductivity type as said source and drain regions, and~~

wherein an electrode is connected to at least one of said pair of portions.

9. (Currently Amended) A semiconductor device having at least one p-channel thin film transistor formed over a substrate, said p-channel thin film transistor comprising:

a semiconductor layer having source and drain regions and a channel forming region therebetween; and

a gate electrode adjacent to said channel forming region with a gate insulating layer interposed therebetween,

wherein said channel forming region directly contacts with said source and drain regions ~~containing a p-type impurity, and~~

wherein a pair of ~~portions containing n-type and p-type impurities and having a p-type conductivity~~ contact pads are formed adjacent to said source and drain regions respectively;

~~wherein an electrode is connected to at least one of said pair of portions.~~

10. (Currently Amended) A The semiconductor device according to ~~any~~ one of claims 3, 4, 8 and 9, wherein said channel forming region contains an impurity imparting one conductivity.

11. (Currently Amended) A The semiconductor device according to ~~any~~ one of claims 3, 4, 8 and 9, wherein said semiconductor layer contains hydrogen and halogen.

12. (New) The active matrix display device according to one of claims 3 and 4, wherein said channel forming region contains an impurity imparting one conductivity.

Applicant : Yamazaki, et al.
Serial No. : 09/774,427
Filed : January 30, 2001
Page : 6 of 8

Attorney's Docket No.: 07977-115003 / US3251D1D1

13. (New) The active matrix display device according to one of claims 3 and 4, wherein said semiconductor layer contains hydrogen and halogen.